MicroVAX Diagnostic Monitor Release Notes

Order Number AA–GO3AV–TN

These release notes describe restrictions, undocumented features, and other essential information about the MicroVAX Diagnostic Monitor (MDM) Version 4.3, Release 132. These release notes supersede all other MDM documentation.

Digital Equipment Corporation
Maynard, Massachusetts

First Printing, September 1988
Revised, June 1990

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This document was prepared using VAX DOCUMENT, Version 1.2.

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Preface

These release notes describe update information, enhancements, new features, and bug fixes for the MicroVAX Diagnostic Monitor (MDM) Version 4.3, Release 132 as they apply to all MDM users.

Intended Audience

These release notes are intended for the following people:

- System managers who are installing MDM
- Individuals responsible for maintaining MicroVAX systems
- Diagnostic developers

Document Structure

These notes are organized as follows:

- Chapter 1 lists updates.
- Chapter 2 lists enhancements and new features.
- Chapter 3 lists problems and corrections.

Associated Documents

The following MDM documents are available:

- *MDM Programmer's Guide*
- *MDM Development Kit Installation Guide*
- *MDM User's Guide*
- *MDM Ethernet Server User's Guide*
- *MDM Hard Disk User's Guide*
- *MDM Reference Card*

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Chapter 1
Updates

This chapter updates information necessary to run MicroVAX Diagnostic Monitor (MDM).

1.1 General MDM Updates

This section updates hardware and installation requirements.

1.1.1 2M-Byte System Support Restriction

MDM Release 132 requires a minimum of 2 megabytes of memory. The monitor uses approximately 1.5M bytes. Note that the average diagnostic requires roughly 350K of memory; if the memory requirements exceed the available memory, MDM does not run.

1.1.2 Operating Environment

Users of the MDM Development Kit must install VAXELN 4.0 for use with MDM Version 4.3, Release 132.

1.1.3 Remote Console

MDM remote console can only be run on one target system at a time from a particular host account. When a second remote session is initiated from the same account, either an exception occurs on one of the target systems or neither target system runs MDM correctly.

1.1.4 Device Diagnostic Support

Table 1–1 provides updates on device support.

Table 1–1: Device Diagnostic Support

Controller	Device	Revision	File Name
CPU	KA620	J	NAKAA
	KA630		
	KA640		
	KA650		
	KA655		
	KA670		
	KN210		
MEMORY	MS630	J	NAMSA
MEMORY	MS650	F	NAMTA
MEMORY	MS670	A	NAMSB
LPV11	LP25	G	NALPA
	LP26		
	LP27		
	LG01		
	LG02		
RQDX2 & RQDX3	RX50	Q	NARXA
	RD32		
	RX33		
	RD52		
	RD53		
	RD54		
KDA50–Q & KLESI	RA60	R	NAKDA
	RA70		
	RA81		
	RA82		
	RA90		
	RC25		

Table 1–1 (Cont.): Device Diagnostic Support

Controller	Device	Revision	File Name
DESNA	–	D	NACQA
DTC–04	–	C	NADTA
IGQ11	–	B	NAIGA
KWV11–C	–	F	NAKWA
KWV11–W	–	B	NAKWB
POLARSTAR	–	C	NAQCA
GS03–WD–DHV11	–	A	NAGSA
GS03–WD–DQZ11	–	A	NAGSB
LANCE	–	D	NALAN
SGEC	–	B	NASGA
DSSI	RF30	D	NADSI
	RF71		
SHAC	RF30	B	NASHA
	RF71		
VS550	–	C	NAVSA
KFQSA	RF30	F	NAKFA
	RF71		
DIV32		D	NADIA
KWV32		A	NAKWC
DELIX[1]	–	D	NADXA
RQX05	–	D	NARQA
KZQSA	RRD40	A	NAKZA
	TLZ04		

[1]Indicates diagnostics that are included on the media, but are not supported in the auto-configuration information. To use these diagnostics you must use the custom configuration commands.

1.1.5 MDM System Notes and Updates

You will find a Software Performance Report (SPR) form in each kit. These SPR forms provide two functions. First, they are a means of letting the software developers know as soon as possible about problems found in the product. Second, they provide users a way to offer suggestions based on actual use of the product.

1.1.6 TK50 Load Times

Table 1–2 is a chart of TK50 and TK70 load times for MDM Releases 114 through 131. Load times, in any configuration, are not available for MDM Release 132. Load time is the length of time necessary for a system to load and configure the diagnostics for the individual devices in the system. The listed times do not include the length of time needed for the monitor to load initially (the elapsed time from the boot command to the display of the disclaimer).

Table 1–2: TK Load Times (in minutes)

Release	TK50	TK70	TK50	TK70	TK50	TK70	TK50	TK70
	(CONFIG 1)		(CONFIG 2)		(CONFIG 3)		(CONFIG 4)	
114	07:49	na*	06:50	na*	19:52	na*	.09:30	na*
115	25:55	na*	39:44	na*	35:23	na*	14:21	na*
116	09:33	na*	12:21	na*	24:49	na*	12:19	na*

* Load times are listed in minutes. Releases before 120 did not support TK70 drives. No comparisons can be made between those releases and releases between 120 and 132.

** As of Version 4.0, Release 129, Config 4 will not be supported.

*** As of Version 4.3, Release 132, TK50/TK70 load times in any configuration will not be made available.

Key to Configuration Devices

- Config 1 = CPU, MEM, DEQNA, RQDX2, DHV11, TK
- Config 2 = CPU, MEM, DEQNA, TK, TSV05, DMV11, KDA50, CXY08
- Config 3 = CPU, MEM, RQDX3, TK, DEQNA, DHV11, KDA50, RC25, DZV11, DZQ11, DPV11, KWV11–C
- Config 4 = CPU, MEM, DEQNA, RQDX3, TK, VCB02

Table 1–1 (Cont.): Device Diagnostic Support

Controller	Device	Revision	File Name
TQK50	TK50	I	NATKA
	TK70		
DEQNA	–	Q	NAXQA
DELQA	–	Q	NAXQA
DESQA	–	Q	NAXQA
DLV11	–	D	NADLA
DZQ11 & DZV11	–	G	NADZA
DRV11–WA	–	I	NADRA
DRV11–J	–	F	NADRB
DPV11	–	G	NADPA
DMV11	–	I	NADMA
KRQ50	RRD40	J	NARRA
	RRD50		
KMV11A (KMV1A)	–	F	NAKMA
KMV11B (KMV1B)	–	F	NAKMB
IEQ11	–	B	NAIEA
DHQ11		K	NADHA
CXY08	–		
CXA16	–		
CXB16	–		
CXF32	–		
DHF11	–		
DHV11	–		
DFA01	–	E	NADFA
VCB01	–	F	NAVCA
KWV11–C	–	F	NAKWA
ADV11–DA	–	G	NAADA

Table 1–1 (Cont.): Device Diagnostic Support

Controller	Device	Revision	File Name
AAV11–DA	–	H	NAAAA
AAV11–C	–	B	NAAAC
ADV11–C	–	B	NAADC
AXV11–C	–	E	NAAXA
VCB02	–	F	NAVCB
DSV11	–	H	NADSA
VSV11	VSV21–AA	G	NAVVA
	VSV21–CA		
	VSV90		
DRQ11–C	–	B	NADQA
LNV11	–	D	NALAA
LNV11–A	–	C	NALNA
KLESI	TU81	I	NATUA
	TU81E		
TSV05	TS05	K	NATSA
DRQ3B	–	F	NAQBA
IBQ01	–	C	NAIBA
IAV11–A	–	D	NAIAA
IAV11–B	–	D	NAIAB
IDV11–A	–	D	NAIDA
IDV11–B	–	G	NAIDB
IDV11–C	–	D	NAIDC
IDV11–D	–	D	NAIDD
MIRA	–	G	NAMIA
KXJ11	–	H	NAKXA
ADQ32	–	F	NAAQA
RV20	–	F	NARVA

Table 1–2 (Cont.): TK Load Times (in minutes)

Release	TK50	TK70	TK50	TK70	TK50	TK70	TK50	TK70
116A	11:21	na*	09:47	na*	25:59	na*	12:54	na*
118	10:25	na*	10:30	na*	29:46	na*	13:06	na*
120	10:12	06:55	10:11	07:01	31:02	23:21	13:15	07:55
121	07:30	04:59	06:04	05:57	17:49	15:22	07:40	05:55
122	06:18	05:08	06:22	05:07	19:04	16:28	07:48	06:03
123	07:26	05:11	06:29	05:12	19:41	16:42	09:17	06:10
124	09:36	07:00	09:17	06:50	21:55	18:52	11:08	08:18
125	10:05	07:40	10:10	07:30	22:25	21:04	12:12	08:45
126	09:47	07:09	09:42	07:03	23:25	21:11	11:20	08:30
127	09:31	07:08	09:36	07:00	24:02	21:23	11:27	08:24
128	08:03	07:21	10:11	06:20	23:29	20:26	11:07	07:38
129	09:12	06:33	08:25	05:49	23:11	19:31	na**	na**
130	07:18	05:50	08:32	05:51	22:57	19:15	na**	na**
131	09:10	06:30	22:42	05:56	24:02	20:31	na**	na**
132	na***	na***	na***	na***	na***	na***	na***	na***

The difference in load times on the same system between a KA650 CPU and a MicroVAX CPU is less than 3%, even though the KA650 is 3.8 times faster than the MicroVAX 3800/3900. Thus, load times are not CPU-dependent.

1.1.7 Order Number Reference

Table 1–3 lists order numbers for current diagnostics.

Table 1–3: Order Number Reference

Part Number	Title
ZNA02–GZ	MV DIAG MDM ENET CUST DOC
ZNA02–P5	MV DIAG MDM ENET CUST TK50
ZNA02–PH	MV DIAG MDM ENET CUST RL02
ZNA02–PM	MV DIAG MDM ENET CUST 1600 bpi MT9

Table 1–3 (Cont.): Order Number Reference

Part Number	Title
QX–K32AA–AA	MDM CDROM DIAGNOSTIC SINGLE USE LICENSE
QX–K32AA–H8	MDM CDROM MAINTENANCE DIAGNOSTIC MEDIA KIT
QX–K32AA–A8	MDM CDROM ANNUAL DIAGNOSTIC UPDATE SERVICE
QZ–K14AA–U3	Customer Diagnostics on RX50
QZ–K14AA–U5	Customer Diagnostics on TK50
QZ–K05AA–H5	MV DIAG MDM ENET MAINT TK50
QZ–K05AA–HH	MV DIAG MDM ENET MAINT RL02
QZ–K05AA–HM	MV DIAG MDM ENET MAINT 1600 bpi MT9
QZ–K05AA–GZ	MV DIAG MDM ENET MAINT DOC
QZ–K15AA–GZ	MV DIAG DEV DOC KIT
QZ–K15AA–H5	MV DIAG DEV TK50
QZ–K15AA–HM	MV DIAG DEV KIT 1600 bpi MT
QZ–K17AA–H5	MV DIAG ULTRIX ENET MAINT TK50
QZ–K17AA–HM	MV DIAG ULTRIX ENET MAINT 1600 bpi MT
QZ–K17AA–GZ	MV DIAG ULTRIX ENET DOC KIT
QZ–K17AA–U5	MV DIAG ULTRIX ENET CUST TK50
QZ–K17AA–UM	MV DIAG ULTRIX ENET CUST 1600 bpi MT
QZ–K18AA–U5	MV DIAG RA/RD CUST DIAG TK50
QZ–K18AA–UM	MV DIAG RA/RD CUST DIAG 1600 bpi MT
QZ–K18AA–H5	MV DIAG RA/RD MAINT DIAG TK50
QZ–K18AA–HM	MV DIAG RA/RD MAINT DIAG 1600 bpi MT
QZ–K19AA–H3	Maintenance diagnostics on RX50
QZ–K19AA–H5	Maintenance diagnostics on TK50
QZ–K19AA–GZ	Maintenance documentation

1.1.8 Automatic Distribution of Diagnostics

Each geographic area within the U.S.A. has a designated diagnostic contact. (See Table 1–4 for a list of the contacts.) Field personnel should work with their area contact for all diagnostic needs, including additions and deletions to the ADS mailing lists for all VAX, PDP–11, MicroVAX, MICRO–11, and KLAD systems, and any newly released system. They should also work with their area contact to resolve problems.

Table 1–4: Area Contacts for Diagnostic Distribution

Area	Contact	Direct	DTN	ENET Address
CSC–ATLANTA	Margaret Wilson	404–343–2511	343–2511	MARGARET WILSON@ALF
CSC–COLORADO	Don Decker	719–592–5420	592–5420	CSC32::D_DECKER
NORTH CENTRAL	Nancy Conley	313–347–5721	471–5721	NANCY CONLEY@OHF
IN–DEC	Maddy Vega	508–467–8274	262–8274	SENIOR::VEGA
MID–ATLANTIC	Rob Peterson	301–381–3139	327–3139	GRANMA::RPETERSON
NEW YORK	Wayne Wolfrum	201–819–3954	332–3954	KYOA::WOLFRUM
NORTHEAST	Pearl Magiera	508–441–6624	288–6624	NERSW5::MAGIERA
SOUTH CENTRAL	Carolyn Duerksen	214–702–4606	483–4606	DPDMAI::DUERKSEN
	Kathy Jenkins	404–772–2256	385–2256	ODIXIE::KJENKINS
WEST	Barbara Smith	714–850–7747	533–7747	SWAM2::SMITH_BA
	Marion Bratton	408–496–3410	521–3410	WR2FOR::BRATTONMA
FEDERAL SYSTEMS	Rick Tomaszewski	301–306–6615	379–6615	TOMASZEWSKI@DER
GIA	Terry Munroe	613–591–4256	621–4256	KAOFS::MUNROE

1.1.9 DEQNA as Debugging Device

The DEQNA is the proper load device to use in a debugging session.

1.1.10 MDM Boot Capabilities

Table 1–5 lists the MDM boot and diagnostic load capabilities for media vs system. You must order the appropriate kits.

Table 1–5: MDM Boot Capabilities

Boot Media	MicroVAX/rtVAX	DECstation 5400
RX	Yes	Not available
TK	Yes	Yes
Network	Yes	Yes *
Hard Disk	Yes	No

* Host boot node can be on ULTRIX or VMS host, provided DECnet is installed.

1.2 MDM Diagnostic Notes and Updates

All diagnostics have been rebuilt and are incompatible with previous versions of MDM. The diagnostics are source-compatible only. The following diagnostics have been revised for Version 4.3, Release 132. The last letter indicates the revision level of the diagnostic.

- NADRBF
- NADSAH
- NADSID
- NAIDCD
- NAKDAR
- NAKZAA
- NAMSBA
- NAQBAG
- NASGAA
- NASHAB
- NATSAK
- NATUAI

Chapter 2
Enhancements and New Features

This chapter discusses enhancements and features which were added to MDM Version 4.3, Release 132.

2.1 Booting from the SGEC on the VAX 4000

MDM Version 4.3, Release 132 supports network boot through the Second Generation Ethernet Controller (SGEC) with the H3604 cover panel on the VAX 4000. To perform network boots, you must install the MDM Ethernet Maintenance Kit and use the NA18AP.SYS bootable image. The MDM boot command is BOOT EZA0.

2.2 Booting from the SHAC on the VAX 4000

MDM Version 4.3, Release 132 also supports booting off an RF drive connected to the VAX 4000 Single Host Adapter Chip (SHAC). To perform RT drive boots, you must install the MDM Hard Disk Kit on device DIA0 and use the MDMSHA.SYS bootable image. The MDM boot command is BOOT/100 DIA0.

2.3 Booting MDM from a Compact Disc

MDM Version 4.3, Release 132 supports booting from an RRD40 on a KZQSA (also known as QZA) controller. A Maintenance Compact Disc (CD) is now available for this purpose.

The Maintenance CD contains an MDM CDROM bootable image, MDM diagnostics, Release Notes, BUILD_MDMTAPE (for building customized TK50/70 tapes), Hard Disk and NI savesets, *MDM User's Guide, MDM Ethernet Server User's Guide,* and *MDM Hard Disk User's Guide.* The disc also contains a file, CDROM_README.TXT, that provides general information about the contents and use of the compact disc.

To boot MDM from the CDROM (RRD40), issue the command BOOT DKAnnn, where *nnn* is the boot number of the RRD40. Use the SHOW SCSI command at the console prompt >>> to obtain the boot label and number.

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Chapter 3
Problems and Corrections

This chapter discusses monitor and diagnostic problems.

3.1 Monitor Problems

Monitor problems are divided into four categories:

- Menu problems
- Command Line Mode problems
- Development problems
- Miscellaneous problems

3.1.1 Menu Problems

You may have to do additional CONFIGURATION for Menu 4.3, the Display the Device Menu from the Service Menu. If you bring up MDM, configure the system through CLM, and then enter option 3 of Main Menu 4, the following message and prompt appear:

```
This menu lets you select a device for testing.

No devices in this configuration
You must run CONFIGURE first

Press the RETURN key to continue. >
```

This message is incorrect because it tells you that there are no devices in the configuration and that you must run Configure before entering this menu option, even though you have already configured the system through CLM.

This message appears every time you try to enter this menu until you run a Menu Mode option that causes the system to be configured again. After you do a Menu-Mode configure, you can enter this menu (4.3).

3.1.2 Command Line Mode Problems

The following sections describe Command Line Mode problems.

3.1.2.1 RESET CONFIGURATION with RV20 on NA04 Image

There is a problem when you load the following configuration through the NA04A (TK50 tape image):

- MicroVAX II
- Memory
- TK50
- RQDX3
- CXF32
- 4 RV20s

If an RV20 is connected and a configuration is done, the system operates normally until you enter a RESET CONFIGURATION command. After the RESET CONFIGURATION command, the system appears to be hung. However, after about 1 hour, MDM returns the "MDM >>" prompt.

To avoid the problem with the previously listed configuration, reboot rather than issue a RESET CONFIGURATION command.

3.1.2.2 UNITS ENABLE and DISABLE Do Not Work if Unit Number Is Greater Than 15

The UNITS command in MDM allows you to ENABLE or DISABLE individual device units. Devices have unit numbers anywhere from 0 to 1024. However, if you enter the UNITS ENABLE or the UNITS DISABLE command with a unit number greater than 15, the following message is displayed:

```
Invalid unit number, Unit number range 0-15
```

You have no way to disable or enable any units declared by any devices if the unit numbers are greater than 15.

3.1.3 Development Problems

The DSL$Delete_Device command does not delete multiple objects. When you make multiple calls to DSL$Create_Device, the device objects appear normal. For example, you can manipulate the device objects with calls to DSL$Allocate_Map. However, when you attempt to delete these objects with DSL$Delete_Device, only the first device object is deleted. Subsequent

calls return the DSL status of DSL$Bad_state. The device objects are not deleted.

3.1.4 Miscellaneous Problems

The following sections describe miscellaneous problems.

3.1.4.1 Unsupported Devices

Unsupported devices can display detailed messages from within tests; the detail message flag cannot be turned off for these devices.

3.1.4.2 RC25—nakdal—Functional Tests Can Give Fatal Bugcheck

When running the functional tests with pass set to 0 on the KDA50 diagnostic running on the RC25 with the KA650 the following fatal bugcheck occurs:

```
** Fatal Bugcheck, uVDOS V3.0. UNXINTEXC, unexpected interrupt
                                                    or exception

Job 000300D2, Program: nakda

  R0      ...     R4        R5      R6        R7
00000001 ...  00000005 00000001 00000000 00000005
7fffffff ...  000011ea 7ffffd18 80055bf0 80004e04
  R8      ...     AP        FP        SP        PC

KERNEL/INTERRUPT STACK

   80055BF4 04170000
 80055BF8 000096D4
 80055BFC 000000A0

System shutdown complete - use console to halt system
```

This occurs on different pass numbers ranging from 1 to 137; however it usually occurs after running test 1.

3.1.4.3 RF Boot Off DSSI Hangs After Reset Config/Config Commands Issued

MDM can boot the hard-disk kits from the DSSI port of the MicroVAX 3300 /3400. The monitor boots (MDMDIA.SYS image) and loads the diagnostics correctly on the initial load. However, when you perform a Reset Configure (through either the CLM Reset Configure command, or the Menu Mode menu 5.4 - Activate Menu) and then perform a Configure, the monitor displays the following message and hangs:

```
The system is preparing for testing.
```

```
This may take several minutes.
Please wait...
```

You must reboot the system for testing to continue.

3.1.4.4 MDM Monitor Does Not Boot from a Second RF Drive DSSI Port

When booting MDM from an RF drive attached to the DSSI port, you must use unit 0. You get a "Fatal Error" when booting from any drive other than DIA0.

A possible workaround is to switch the Drive Designation Keys so that the drive that MDM resides on becomes DIA0. However, after you finish using MDM, you should return the Drive Designation Keys to their initial values.

3.1.4.5 Error Messages Can Be Lost in CTRL/C Mode

If you enter CTRL/C mode while exercising a system and a diagnostic errors, some of the error messages can be lost if detailed message is set ON. The monitor still counts the errors but the messages and the errant diagnostic may be lost.

3.1.4.6 CDROM Does Not Boot MDM if TLZ04 (RDAT) is Inserted before Boot Command Is Issued

When you boot MDM from a RRD40 a KZQSA, MDM does not boot and a parity error occurs if you insert the TLZ04 (RDAT) is into the drive before you issue the BOOT command. Therefore, TZL04 cannot be fully tested.

To avoid this problem, issue the SHOW SCSI command before you issue the BOOT command.

3.1.5 Diagnostic Problems

The following sections describe diagnostic problems.

3.1.5.1 DSSI—Diagnostic Is Disabled if CTRL/C Entered During Functional Test

If a CTRL/C is entered during functional test 4, the DSSI diagnostic raises a "No Access Violation" and is disabled by the monitor. This can also happen during Exerciser tests and MDM Menus 1 and 6. To continue testing, reboot MDM or issue a RESET CONFIG, CONFIG from CLM.

3.1.5.2 DSSI—Verify Test 4 Fails When the Drive Is Offline

When you run the verify test 4 of the DSSI diagnostic with the drive offline, the test fails. The verify tests are supposed to run whether or not a drive is attached and online. This is only a READ test, but still needs the DUP code to run, which does not happen if the drive is offline.

3.1.5.3 MIRA—Out of Range Input Causes Wait

When running utility tests 3, 4, or 5 on the MIRA, you see general SETUP messages and then are prompted to enter a 1 or 2 and press RETURN, corresponding to the particular mode (maintenance or installation) that you are in.

If you enter an out-of-range number (either 0 or greater than 2), the cursor drops to the beginning of next line and waits. To continue the test, enter a 1 or 2 and press RETURN. The test continues according to which value you entered.

3.1.5.4 DTQNA/nazqaa—Cumulative Pass Count as Printed Is Confusing

A progress message printed during the running of exerciser and functional tests gives the total count of the number of passes of all tests run. This count is incremented each time the diagnostic runs any test and the message is printed after every 10 passes. When the monitor prints out the following messages, a user could be confused as to exactly how many passes were executed. The following is an example:

```
pass 1 test 1 started
pass 2 test 1 started
the test has run 10 passes
```

3.1.5.5 DZV11/nadzaf—Fails Exerciser Test 1 with DTQNA in Config

A bus timing problem occurs with the DZV11/DZQ11/DTQNA configured in a system. The failure happens with the DZV11 as the second DZA device. This failure only occurs after the initial boot, not after a reset config or config. The failure has also been observed when the DZV11 is the first DZA device in the configuration, but the frequency of occurrence is less.

The failure has been observed when the bus is set up as follows:

```
nakaa   160000  000
namta   160000  000
narxa   172150  154
natka   174500  260
nadza   160100  300     dzq11
nadza   160110  310     dzv11
nadha   160500  320
nazqa   172570  330     dtqna
naxqa   174440  120
```

3.1.5.6 ADV11D–A—Gets Fatal Bugcheck with Utility Tests 5 and 6

When testing the utilities for the ADV11–DA, tests 5 and 6 are looking for a CSR of a second device. Because the device is not a part of this setup, "CTRL/C" is typed and then the HALT command is used to exit the test. The system responds with the following message and then crashes:

```
Fatal bugcheck, VAXELN V4.0 FATLMEMERR, unrecoverable memory error
Current Job = 000300c2
Program Name = NAADA

Test 5 of the utility is "D/A-A/D loopback test"
Test 6 of the utility is "Real time clock start test"
```

3.1.5.7 KDA—Fatal Bugcheck During Config if Nonexistent CSR Used

When you use a KA650 CPU with no KDA board, specify a nonexistent CSR address for a KDA, and then perform a configure of the system, the KDA diagnostic should see if a device is at the specified address and then disable itself when there is no response. This is what happens with a MicroVAX CPU.

However, this action produces a fatal bugcheck if the CPU is a KA650 or with a TK50. The following detail messages are produced:

```
***** Fatal Bugcheck, VAXELN V4.0 FATLMEMERR, unrecoverable
      memory error

        current job = 000300c2

        Program Name= NAKDA
```

```
Press return to view remainder of bugcheck info.....
        Register Dump

                R0 = 8018ac78
                        .
                        .
                        .
                PSL=041d0008
        Kernel/Interrupt Stack
                800747f8../....


  system shutdown complete
```

3.1.5.8 LANCE—Diagnostic Does Not Include Device Name in Setup

The LANCE diagnostic does not include the device name within its SETUP message.

3.1.5.9 NALAA—LPS40 Fails Utility Test 2

The NALAA diagnostic utility test 2 "Print Engine Emulator Test" fails if the device is not connected. Utility test 2 neither tells the operator that it has failed nor gives the operator an opportunity to connect the emulator test device.

3.1.5.10 NALAA—LPS40 Fails Utility Test 4

The NALAA diagnostic utility test 4 "Print Engine Emulator Test" fails. The diagnostic does not advise the operator that the test is for a DUPLEX Printer Only.

3.1.5.11 CXF32—Fails Utility Test 1 with KA650 CPU

The diagnostic fails utility test 1, "Staged loopback test," with all ports looped back or with just one port looped back when run under the KA650 CPU. This error occurs regardless of which half of the board is being tested. A typical example follows:

```
There were 17 data errors in 10 cycles.
Interrupt failure occurred while transmitting on line 8.
DHCX0A - Error number 30
Error during port interrupt test.
```

3.1.5.12 TSV05—Diagnostic Reports a Unit Even if No Unit Present

When a system is configured with a TSV05 controller but without an attached drive, the diagnostic reports the following:

```
TSV05 Magtape Controller
    TSV05 - Unit #  0, Tape Drive Offline
```

3.1.5.13 VS550—Diagnostic Fails When Exercised with the TK70

When the VS550 and the TK70 diagnostics are exercised together, the VS550 fails during exerciser test 2 with the following error:

```
VS550 - Error Number 12
there were errors during the test
M7651 is the FRU
```

This error occurs when exercising the whole system or when just exercising the TK70 and VS550 together.

3.1.5.14 RQDX—Diagnostic Fails Verify Test 3 if There Is No Floppy in RX50 Drive

The RQDX diagnostic fails verify test 3 if the RX50 drive contains no floppy disk or is offline. This could be a problem if the user is running Main Menu 1 or 6 because all they would see is a "not-so-helpful" error message. The user is then directed to "contact field service." A message that suggests a corrective action would have been more appropriate.

3.1.5.15 IDV11–C—Diagnostic Prints Nonstandard CTRL/C Message When Prompting User

When you run utility test 2 of the IDV11–C diagnostic, a message that suggests to the user to "type" instead of "press" CTRL/C to EXIT is displayed.

3.1.5.16 IAV11–A—Diagnostic Does Not Provide Limits on Available Channels

If you select the "Dynamic Analogue Input Test" when you run the IAV11–A's utility test 2, you are prompted to "Enter number of first channel to be used," but you are not alerted to the limits on the available number of channels. This could pose some problem because you could enter several channels.

3.1.5.17 DSIA—Diagnostic Prints Nonstandard "CR" Message When Prompting User

When running utility test 2 of the DSIA diagnostic, you see the following message:

```
You may type "exit" to exit from this utility
or "CR" to display the local program directory.
```

The message should read as follows:

```
You may type "exit" to exit from this utility or
press <RETURN> to display the local program directory.
```

3.1.5.18 KDA50—Diagnostic Errors When Run for Extended Period on rtVAX System

When you run utilities on an rtVAX system over an extended period of time (about 24 hours) with the following configuration: CPU, memory, RQDX3, TK70, DHV11, DHQ11, DZV11, RC25, KDA50 (RA82), DPV11, DZQ11, and KWV11–C, an intermittent failure is reported. The error reported is:

```
KDA50QA - Error Number 21
Controller detected internal error.
M7164 controller processor module.
```

3.1.5.19 DH–CX0A—Diagnostic Produces Errors During Extended Run on VAX 4000

During testing of a VAX 4000 system in the following configuration: KA670, 32M memory, EZA, PDIA, PDIB, TK70, DEQNA, CXY08, CXA16, CXB16, DSV11, and DRQ3B, tests 230 and 370 of the DH–CX0A diagnostic fail after an extended run. DH–CX0A is the CXY08 module. The error message reported is as follows:

```
1. DH-CX0A - Error Number 230    12-May-1990 22:04:22:45
   DMA did not resume after ABORT
   DH/CX controller module

2. DH-CX0A - Error number 370    13-May-1990 17:49:28:90
   TX.ENA not set/reset during outgoing flow-control test.
   DH/CX controller module
```

The system was running in Service/Exerciser mode with pass count set to 0. The test was started on 11–May–1990 08:00.

3.1.5.20 CXA16—Diagnostic Utility Test 1 Fails with E34 Switch 1 Off on VAX 4000

The CXA16, a communication device, fails utility test 1 when switch 1 of E34 is set off on a VAX 4000 in the following configuration: KA670, 32M memory, PDIA (SHAC), PDIB, TK70, DESQA, CXY08, CXA16, CXB16, DSV11, and DRQ3B. The following error message is reported:

```
Testing...
There were 151 data errors in 10 cycles.
DH-CX0C - Error number 30
Error during port interrupt test.
```

3.1.5.21 KFQSA—Fatal Bugchecks During Utility Configuration

The KFQSA diagnostic causes a fatal bugcheck under the following conditions:

- A second drive is added to the KFQSA
- Test 2 is entered after the successful completion of test 1

This is the normal test sequence unless test 1 is specified as the selected (default) test for MDM. Test 1 is the KFQSA Configuration Utility; test 2 is the DSSI Device Data Erase Utility. The failure occurs only when switch 1 is in Service mode. It runs successfully when the switch is in Normal mode. The following message is displayed:

```
**** Fatal Bugcheck, VAXELN V4.0 FATLMEMERR, unrecoverable
     memory error

       Current Job = 000300FD

       Program Name = NAKFA

   Press RETURN to view remainder of bugcheck information...

          Register Dump

              R0 = 00000401
              R1 = 00000036
                   .
                   .
                   .
              PSL= 041D0008

          Kernel/Interrupt Stack

             8007C7F8  0001207E
             8007C7FC  00000000

             System shutdown complete - use console to halt system
```

3.1.5.22 DRQ3B—RF Drives Go Offline When Run with DRQ3B on VAX 4000

When MDM is set to run in Service mode, Exerciser section, and Pass=0 on a VAX 4000 in a configuration that includes the SHAC and the DRQ3B with no other devices enabled, the RF drive goes offline within 10 minutes. This problem does not occur if other devices are run without the DRQ3B. The following error message is reported during the test:

```
PDIA - Error Number 196611
MSCP command timed out.
FRU: DSSI Port: 0

PDIA - Error Number 65541
Drive was not online.
FRU: DSSI Port: 0

PDIA - Error Number 65540
MSCP connection could not be opened.
FRU: DSSI Port: 0

PDIA - Error Number 65544
Drive was not online.
FRU: DSSI Port: 0
```

3.1.5.23 SHAC—Diagnostic Fails with RF31 Device on VAX 4000

The SHAC diagnostic errors with RF31 device(s) in some VAX 4000 systems in the following configuration: KA670AA, MS670BA, TQK70/TK70, and CXY08 while running in SERVICE/EXERCISER mode. The error can also occur on other configurations including one with only KA670AA and MS670BA. The following error message is displayed:

```
NASHAB - Error Number 196612
MSCP command hasn't made any progress
```

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